

models, is expected to photograph a large portion of the world, but spend the majority of its time flying over the Soviet Union. Its less predictable orbits are being hailed by industry analysts as the beginning of an era in which it will be "far more difficult for the Soviets to evade [American] surveillance." Experts agree that the machine will greatly enhance the ability of the United States to verify treaties and arms control agreements, but have offered little clue as to just how powerful its sensors are. In this age of rumor mills, information leaks, and spy scandals, it is amazing that no one (without a high-level security clearance) seems to know what the image resolution capabilities of modern remote sensing surveillance equipment really is. (adapted from the *New York Times*, 8/9/89)

### cart lab bulletin board

This forum is offered to encourage communication among practitioners at a time of rapid technological transition. Questions, comments, and announcements are invited.

#### CARTOGRAPHY AT THE UNIVERSITY OF TORONTO

G.J. Matthews, Chief Cartographer  
University of Toronto

The cartography office at the University of Toronto is an integral part of the Department of Geography. The present office occupies a 2080 square foot open plan room, with natural light, in the basement level of Sidney Smith Hall in the Arts and Science Faculty.

The office was established in 1963 when I was hired to design and produce the *Economic Atlas of Ontario*. For that project the staff gradually increased to 6 cartographers. Cartographic supply and demand caused some fluctuations in staff levels over the years: from a low of 3 personnel in the early 70's to the present high level of 8

female and 5 male full-time professionals.

In the early years the cartographic mandate was to provide a drafting service to the geography academic staff for slides, overhead transparencies, and for publication materials. If time was available the cartographers were also expected to extend this free service to graduate students in need of maps and graphs for their theses. During these years, though, the *Economic Atlas* project had priority over all other work.

The office established, with the *Economic Atlas* publication, a style and quality of cartographic production second to none. When the applause abated the expected flow of major projects to our office failed to materialize, so once again we became a service lab for geography staff. Unfortunately the academic staff were now in the first hypnotic trances of the computer age and the demand for maps almost entirely disappeared.

The mid 70's introduced a new phenomena that effected our operation—the shrinking University budget! Partly, at first, to supplement the departmental budget, and later as a contribution to salaries, the "free" drafting service disappeared and "cost recovery" was now introduced. This had a profound effect on our operation and changed the direction of the office entirely. Academic staff now had to pay through pre-arranged grants for their previously free cartographic service, and our time and materials were charged to all jobs.

We now extended our cartographic service to all University departments, and later promoted our talents to provincial government departments and to interested publishing houses. Contract cartography for specific map work was now more frequent.

In 1978 a group of geographers, historians, and cartographers made a formal proposal to the

federal government, through the Social Sciences and Humanities Research Council, to produce a three-volume *Historical Atlas of Canada*. The cartography office was an integral part of that proposal. When the project was approved in 1979 (with a \$5 million budget) the gradual hiring of new staff began. Today the office is staffed by 13 cartographers with a combined total of 170 years experience.

Because of our professional reputation and high quality of production our atlases have been awarded 4 gold medals; all staff are full-time highly qualified cartographers. Only occasionally has the office hired students for summer help. The cartography operating budget for salaries, supplies and filmwork is well in excess of a half million dollars a year.

Volume I of the *Historical Atlas of Canada* was published in 1987. The French and English editions sold over 24,000 copies at \$95 each and received very positive reviews and awards. Production is nearing completion on the second volume in the series which will be published in September, 1990.

About the time we were gearing up for the *Historical Atlas* the number of commercial mapping contracts increased dramatically. During the past ten years there have been few periods without 2 different atlases being produced concurrently. The office has now 12 full colour atlases to its credit and is currently working on numbers 13 and 14.

Although the office is an integrated unit and the cartographers are intermingled the cartographic responsibilities are divided. *Historical Atlas* staff work solely on that project, while geography staff work on all other contracts. On occasions when deadlines are critical manpower is rearranged temporarily to maintain production schedules.

Apart from the more complex thematic cartography the staff still produce a sizeable number of black and white maps for publication by academic staff, and for other publishers including the University of Toronto Press. An even greater volume of simple ink and lero lettered graphs are produced for wide cross-section of departments within the University. We even produce the occasional poster. This is the bread and butter of our operation and ensures a constant flow of funds to the Department.

For colour cartography our methods are state of the art, although the office is not yet involved in the application of the computer for day-to-day production. The computer is involved, however, in the research and data manipulation for maps and on occasion for graphic illustration. Two members of the cartographic staff are specialists in computer cartography and it is inevitable that the office will eventually move in that direction.

Currently all type orders are prepared and coded on a word processor in the office and discs are supplied to a commercial typographic plant for setting. All our type is supplied on waxed stripping film.

All map production overlays are scribed. All colour separations are by the peelcoat method and peeled manually. All overlays are punch registered on a Ternes 6-hole punch. Preliminary and intermediate film requirements are produced by the Faculty of Art and Science Photographic Laboratory.

Colour proofs are contracted commercially using the watercote process. Type negatives and final plating film are also made commercially in Toronto.

The cartographic responsibility for a contract extends also to the printing stage, and a cartographer familiar with the job is always on

hand with a representative of the publisher to approve the colours and registration on the printed sheet as it comes off the press.

Because each cartographer is allowed to use creative freedom in style and colour within certain guidelines, and are totally involved with all aspects of production of the maps they produce, there is a strong spirit of pride in the projects that issue from this office.

#### KWIK PROOF TECHNICAL NOTE

*Don Myrick*

*Energy, Mines and Resources Canada*  
Despite a whole new generation of colour proofing systems which have come into use during the past few years, here at the Map Reproduction Centre at Energy, Mines and Resources, we have continued to use the old Kwik-Proof wipe on system. This has given us the flexibility to mix our own colours (our colour book contains over fifty) and allows us to proof large format work up to 48" by 65".

For us, Kwik Proof "Brightner" has become a very important tool. Brightner is a powerful cleaning agent originally intended to remove background or scumming from a colour proof. However, in removing the scum, the Brightner renders the image very fragile and can in fact damage it unless great care is taken.

We use Brightner as part of our wash off stock solution. We mix three ounces of strong ammonia and fifteen ounces of Brightner per gallon of water. When doing a wash-off, we further dilute the stock solution to about 8 ounces to 48 ounces of water. Not only does this solution take care of any background, but, more importantly, it enhances the quality of the image itself. This is because the Brightner sharpens the screen dot, fine type etc.. compensating for unevenness and slight overexposure. This is particularly true

of high percentage screens which tend to plug with normal exposure. Since we began to use Brightner, we have significantly reduced the number of remakes and are able to provide a better quality proof.

*(CCA Newsletter, 15:1, 1989)*

### fugitive cartographic literature

Interesting articles about cartographic information often appear in unexpected outlets. The goal of this section is to bring those publications to the attention of our readership. We invite synopses of papers appearing in journals other than those devoted to cartography, geography, and map librarianship.

#### CORRIGENDUM

CP number 2, Summer 1989 featured an excerpt from Mary Kingsley's *Travels in West Africa* (London: 1897) graciously submitted by Pat Gilmartin. The editors regret that CP2 stated that "Mary Kingsley was an English explorer who explored the Ogowé and Rembé rivers of West Africa in the late 1900's." In fact, Kingsley explored West Africa in the late 1890's.

#### Guptill, Stephen C. and Starr, Lowell E. (1988). Making maps with computers.

*American Scientist*, 76: 2, (March-April 1988) pp. 136-142. reviewed by Marsha L. Selmer, University of Illinois at Chicago

This article, written for a popular scientific journal, reviews the state of computer cartography in the 1980s for a non-specialist audience. Guptill and Starr, of the U. S. Geological Survey, National Mapping Division, introduce the topic by discussing maps as a medium of communication, by outlining the characteristics of detailed topographic mapping, by touching on the rapid changes in mapmaking technology, and by

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